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Workplace Information Literacy: Current State of Research Published from South-Asia

by

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Abstract

This paper intended to provide a critical and analytical review of research on workplace information literacy published from South-Asia with a view to inform policy and practice. Library, Information Science and Technological Abstracts (LISTA) was searched to identify the key studies published in the proposed research area using multiple keywords. The search process resulted in 384 citations which were screened for duplication and relevance. As a result, 375 citations were excluded due to duplication and non-relevance. Only nine citations remained to deal with for review. The reference lists of these citations were also examined to identify more related citations which resulted in 3 more citations to be included. Thus, there were only 12 citations included in this review. The results indicated the dearth of studies on workplace information literacy in South-Asia. Most of these studies focused on library and information professionals, followed by scientists, and university teachers using survey research design. There was only a single study that addressed information literacy in visually impaired teachers. The respondents of the reviewed studies were competent to basic levels of information literacy where they were less comfortable in advanced levels of information literacy. There was a critical necessity for a need-based IL curriculum for workplace environments. These results indicated the need for more research on workplace information literacy in South-Asia to inform policy and practice. This study would be a great contribution to the existing literature as it can be used as a foundational study for workplace information literacy in South-Asia.

Keywords: Information literacy, Workplace, Literature Review, Pakistan, South-Asia.

Introduction

Since Zurkowski used the term in 1974, the information literacy domain has evolved tremendously. Information literacy is a set of skills required by an individual to identify the his/her information needs and the ability to find, evaluate and utilize the needed information ethically and legally in problem-solving and decision making (American Library Association, 2000). The ACRL (Association for College & Research Libraries) describes an information literate person as “one who can find out the required information, acquire the needed information efficiently and effectively, assess information and sources of information critically, integrate selected information, utilize selected information to accomplish a particular purpose and realize the legal, social, economic and ethical issues regarding information” (ACRL, 2000). The history of information literacy development has crossed several milestones, but since the last decade, the importance of information literacy has been intensely recognized in different contexts such as

academia, workplace and everyday life. As a result, a great amount of literature has been produced by research scholar of multiple disciplines.

Information literacy is essential for the workforces of the 21st century as it prepares them for obtaining a sustainable competitive advantage and entrepreneurial capabilities. Current patterns of the business world and other organizations recognized the significance of information literacy and related skills for the workers as well as employers. Employers are keen to build an information literate workforce to cope up with new challenges such as an abundance of information and scarcity of knowledge. According to Forster (2017) “*Information literacy in the workplace is learning, experienced as task-focused information need and its fulfillment through effective information engagement*”. Workplace information literacy can simply describe as a workforce equipped with problem-solving and critical thinking skills and capable to find, assess and utilize information to tackle work-related matters and communicate efficiently and effectively regarding those matters (Malafi, Liu & Goldstein, 2017). Thompson (2003) described information literacy as essential expertise in the workplace that creates positive outcomes for a wide range of organizations.

Literature Review

Information literacy has been recognized as important in every walk of life. However, the main focus of researchers was to investigate, explore or describe information literacy in the educational domain (Anwar & Naveed, 2019; Naveed & Mahmood, 2019, 2021). With time, the aptitude to find, comprehend and utilize information to solve work-related issues is also acknowledged widely as a basic competency for all professions. Employees ought to be confident enough to interact with information to deliver their maximum. Organizations are becoming aware that a proficient workforce is critical to the achievement of success in a competitive world. (De Saulles, 2007; Zhang, Majid & Foo, 2010; American Management Association, 2010; Goad, 2002). The exceptional increase of research studies in the domain of information literacy has been seen in the past decade (Abdi & Bruce, 2016; Aharony & Bronstein, 2014; Ahmad, Widen & Huvila, 2020; Lockerbie & Williams 2019; Lai, 2011).

A perusal of existing literature reveals that a high number of research articles reported the information literacy (in context of the definition, recognition, significance and to identify barriers in information literacy process) of diverse professionals from different work environments such as police officers, firefighters, nurses, senior managers, barristers, auditors, engineers, etc. (Kirk, 2004; Lloyd, 2007; Al-Daihani, Rehman, 2007; Hepworth & Smith 2008; Forster, 2015; Abdi & Bruce 2016; Binsfeld, 2019; Bonner & Lloyd, 2011; Wu, 2019; Middleton & Hall, 2021). The nature of information literacy in academic and workplace setup differs. This divergence also attracts the researchers and becomes another main concern of their researches.

Information literacy in the work environment is fairly a new terrain of research for information professionals and academicians. The major part of library and information science (LIS) research targeted the educational and public libraries (Bruce, 1999; Partridge, Edwards & Thorpe, 2010; Santos & Oliveira, 2018; Somerville & Howard, 2008). Conversely, special libraries and other workplace environments are less targeted areas. Aharony and Bronstein (2013) investigated the development of the information literacy-related concepts of Israeli academic librarians. Balagué and Saarti (2017) investigated how university libraries utilize communication devices to progress information literacy among academic librarians to provide quality services to clients. Bruce (1999) did an investigation to find out the experiences of

information literacy of libraries and other professionals. Santos and Oliveira (2018) focused on the main concerns of information literacy inside the work environment of librarians and how they use their information literacy competencies during their work.

A model is an example or standard to compare or imitate. Model base studies conferred the diverse situations in a theoretical, conceptual, perceptual, and practical manner that a worker experiences in the workplace while seeking and using information. The researchers also developed various models of information literacy particularly the LIS environment.; 8Ws model by Lamb (1997), the Big six model by Eisenberg and Berkowitz (2001), SCONUL Seven Pillars model of IL developed by a task force (1999), Empowering 8 (E8) IL model developed by participants during an IL workshop in Sri Lanka in 2004 (Brown, Bowden and Wijetunge 2004), Rockman (2004), Hearn (2005), Arnold-Garza (2014), Buchanan, Luck and Jones (2002), Conteh-Morgan (2001) and many others established IL models describing the general issues of IL, however, the majority of models are related to the academic world. Workplace IL models are very few such as; Cheuk Wai-Yi, (1998) conducted a case study of auditors and described a model illustrating their information-seeking process in the working environment. In a conceptual study, Jinadu and Kaur (2014) critically identify and review IL conceptual issues in relevant studies and proposed a model and claimed that it will help researchers to comprehend the mechanism of workplace IL and to assess the practical approach to IL at the workplaces. Widen, Steinerova, and Voisey (2014) reported the results of a workshop. The workshop discussion and literature review were used to develop a workplace information general framework and conceptual map focusing on three core areas: content, information practices, and interactivity. In 2015 Molopyane & Fourie suggested an IL framework developed through a case study. Qualitative and descriptive analysis revealed the results and based on outcomes the model was developed. Lloyd (2011) illustrated a perception of IL in the workplace. The researcher described that the existing concept of IL is very ambiguous as it is not well defined by academia. In a project of action research, Somerville & Howard (2010) advocated the viewpoint of learning IL skills from existing experiences. They developed a framework to value the sharing and enable a knowledge workforce through collective leadership. The proposed models are an incredible help to rehearse IL exercises in work environments, yet it is recommended to also test these models for all intents and purposes and share the results so others can likewise profit. The content of the articles is restricted yet valuable for future researchers.

We live in exceptional social and technological changes that have significant ramifications for the work environment. Adaptability to changing circumstances and inclination to learn new work-related skills and aptitudes has become more imperative than having potential at the tasks for which the workers are hired. Workers are expected to handle unique problems. Workers must be able to deal not just with issues for which they were trained, but also to tackle unique problems that have never been faced before. The educational institutions, employers, and workers should lead to call for an emphasis on information literacy, creativity, and lifelong learning.

Although workplace information literacy is an emerging research trend among library and information science researchers in Pakistan and India and entirely a novel research discipline in other South Asian countries i.e., Sri Lanka, Bangladesh, Nepal, Maldives, Bhutan, and Afghanistan. The importance of importance has been recognized as researchers are exploring required competencies relevant to workplaces. However, no study appeared to have been conducted synthesizing the results of existing research published form South-Asia. Therefore, the present research is an attempt to review the research published form the countries of South

Asia with a view to inform policy and practice about the workplace information literacy. It is hoped that this study would be a reference line for the information researchers and practitioners for future research in the proposed area.

Methods and Procedures

The aim of the present research requires identifying the current status of documents published on workplace information literacy from South Asian countries such as Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan, and Sri Lanka. Library and Information Science and Technological Abstracts (LISTA) was considered the most suitable database for identification of related research because it gives a reasonable coverage of LIS discipline. The researcher searched by following the keywords and combination of keywords presented in Table 1. The detail of each “keyword” searched is also presented in the Table 1.

The first phase of the searching process resulted in 384 citations. These 384 citations were carefully examined to identify the duplications. As a result, 177 citations were eliminated as duplicates and the remaining 207 studies were securitized to figure out the key citations for this review. Moreover, the detailed analysis of abstracts found 198 studies out of the scope of this paper (book chapters, conference papers, workshops detail were excluded). The screening process resulted in only in nine citations. The reference lists of these nine citations were examined carefully and found 3 more related citations. As a result, 12 citations on “workplace information studies” were included for this review. Of the 12 citations there were 11 journal articles and a booklet. These citations appeared during 1979 -2021. The detail is as follows: one each in 1979, 1981, 2014, and 2017, three in 2018, three in 2019, two in 2020 and one in 2021. Nine out of 12 publications were originated from Pakistan, two publications from India and one citation form Bangladesh.

Table 1

Search results from Library and Information Science and Technological Abstracts

Keywords used	LISTA Results
“workplace information literacy” AND “country name”	62
“workplace information literacy” AND “South Asia”	0
“workplace information literacy” AND “developing countries or developing nations or third world or low income countries”	1
“information literacy” AND “workplace” AND “country name”	2
“information literacy” AND “workplace” AND “South Asia”	0
“information literacy” AND “workplace” AND “developing countries or developing nations or third world or low income countries”	1
“information literacy” AND “professionals or manpower or workers or employees or workforce or staff or personnel or labor force” AND “country name”	85
“information literacy” AND “professionals or manpower or workers or employees or workforce or staff or personnel or labor force” AND “South Asia”	0
“information literacy” AND “professionals or manpower or workers or employees or workforce or staff or personnel or labor force” AND “developing countries or developing nations or third world or low income countries”	28
“information literacy” AND “professions” AND “country name”	125
“information literacy” AND “professions” AND “South Asia”	0

“information literacy” AND “professions” AND “developing countries or developing nations or third world or low income countries”	80
Total	384

Scope and limitations

The researcher included only those studies that had directly investigated the “workplace information literacy” and written in the English language. However, to establish a background of the study the general literature on workplace information literacy was included. In limitations, there may be more papers published which we could not identify due to the limited coverage of LISTA. Therefore, the patterns that have been discovered by using these papers cannot be generalized due to the small amount of literature reviewed in this paper.

Results and Discussion

The researcher first summarizes the key features of each selected paper. The detail is given in chronological order in Table 2. This section described the outcomes of the studies and then compares the contrast and similarities of the research outcomes. Finally, the major results are explored and described the implications at the end of this section. A detailed analysis of the demographic aspects of the selected twelve citations depicts some interesting facts. These citations were authored by twenty researchers. Six studies were results of a collaborative effort: five studies were two-authored and one was four-authored. The remaining six studies were authored by a solo researcher. Out of 12 studies, nine were produced from Pakistan, two were originated from Indian and one study originated from the Bangladesh. Out of 12 items, 11 papers were published in nine journals: Library Philosophy and Practice (2), Pakistan Library & Information Science Journal (2), International Information & Library Review (1), Information and Learning Sciences (1), International Library Review (1), Journal of Librarianship and Information Science (1), Information Research (1), Libri (1), and International Journal of Library Science (1). One item was published as a booklet.

As far as methodological features are concerned, all these studies adopted quantitative research design using survey method along with a questionnaire except the study of Khan *et al.*, (2018) that deployed qualitative research design using interviews. The population of half of the reviewed studies was librarians mostly working in university setup. The population of three studies was the working scientists. The remaining two studied faculty members of the university and visually impaired school teachers. Among eleven reviewed studies only one study conducted by Anwar (1981) studied two populations in one study i.e., college teachers and working scientists. The selection of the respondents was done by different sampling techniques such as census, purposive, convenient, and simple random sampling procedures. Although the population of reviewed studies has different geographical locations and professions but produced almost identical research outcomes about workplace information literacy. The majority of the respondents do not have competence for information literacy skills; they are good in basic information literacy skills such as browsing and searching but were not confident in advanced information literacy skills such as evaluating, synthesizing and regenerating information. A greater number of studies simply investigated the level and extent of workplace information literacy skills of the respondents. These studies only touch the surface of the phenomenon and provided basic information for further studies.

Different library associations such as ACRL (1997, 2000, 2015), ALA (1989, 2006a, 2006b, 2015) and IFLA have developed guidelines and standards to assess the information

literacy skills i.e., identify, locate, evaluate, utilize and communicate information by following legal and ethical concerns. The five basic standards to assess the information literacy skills provided by ACRL (2000) are as follows:

1. determination of extent and nature of required information
2. to locate required information efficiently and effectively
3. evaluation of accessed information sources decisively and integrate acquired information into his/her knowledge
4. effective use of information to complete specific goals
5. understand the legal, economic, and social issues regarding access and use of information.

The above-said standards are specific for academic setup but acknowledged as general principles to assess information literacy in all spheres of life. Though the ALA (2006a) has shared information literacy assessment standards regarding science, engineering, and technology fields and ACRL (2012) established information literacy assessment standards for journalism students and journalists but a general standard scale that can be utilized in different workplaces to assess the information literacy skills of the workforce is still lacking. Because of this gap, the majority of the reviewed studies (Ali & Richardson (2018)) used the aforementioned guidelines and standards to develop the questionnaires and customized them according to the local needs and utilized after experts' verification. Rafique (2014) utilized the information literacy life cycle described by UNESCO (2005) to assess the information literacy skills of faculty members.

Among the eleven reviewed studies, three explored the information literacy skills of working scientists i.e., Anwar (1981), Naveed & Rafique (2018), and Naveed (2021). Interestingly all these studies are from Pakistan. The study of Anwar (1981) has acknowledged the first-ever study about "user education" now well-known as "information literacy". The researcher also gets the credit for introducing workplace information literacy in Pakistan. The researcher aimed to identify the extent to which working scientists and teachers had been able to develop information literacy skills at their workplaces. The researcher distributed a questionnaire of 12 items before a presentation regarding "user education". The questions were about information literacy instructions received by the respondents. Most of the respondents never received any training session regarding locating and using their required information material during their studies or professional career. The whole population of the study considered user education very essential in their relevant fields. They showed their interest in attending short-term courses of user education but a few emphasized not specifying the time duration of training courses.

After three decades Naveed & Rafique (2018) also targeted workplace information literacy of working scientists. The researchers expanded the scope of their study by investigating more features regarding workplace information literacy and included a new variable self-efficacy information literacy. the researchers aimed to know the respondents' perception about the importance of information literacy skills, to assess their perceived levels of self-efficacy information literacy, and identify the relationship between information literacy self-efficacy and different demographic variables such as gender, age, qualification, etc. The respondents had competencies in searching various electronic and printed information resources. They were able to easily understand published research and follow the process of writing research articles. Yet, they were not convenient to understand and interpret visual information. The major issues in the context of their information literacy skills were; defining their exact information needs, commencing and developing new search strategies, evaluating the worth and relevance of information, and gathering comparable information and synthesizing it. They were also deficient in managing citations while writing and using electronic resources provided by libraries. The majority of them never attended any information literacy training during their career. However,

the cohort acknowledged the importance of information literacy and wanted to improve their less polished IL skills through training. Moreover, the statistical analysis by using Pearson correlation coefficient t-test and one-way ANOVA indicated a positive relationship between respondents' self-efficacy information literacy and their age, research experience, research publications, qualifications. Self-efficacy information literacy of female scientists was found higher than male scientists. Interestingly there was no relationship found between self-efficacy information literacy of respondents and information literacy training or instructions they received.

After almost three years Naveed (2021) measured the perceived information literacy self-efficacy of working scientists and investigated the relationship of scientists' perceived information literacy self-efficacy with demographic and academic variables such as age, sex, academic qualification, research experience, research publications, and information literacy instruction received. Scientists were good in basic information literacy skills but less comfortable with an advanced level of information literacy skills. Moreover, the respondents' gender, age, research experience, research publications, qualification, and information literacy training also affect their information literacy skills. There was a significant period gap between the above said studied but found some identical outcomes such as the depressing situation of receiving workplace information literacy instructions by working scientists and lacking confidence in advanced information literacy skills. This leads to high demand to incorporate IL instruction programs in the academic syllabus to produce a competent workforce and at workplaces as well as to advance the information literacy skills of the existing workforce. The overall situation of information literacy of scientists indicated as unsatisfactory and decisively required in-service information literacy training on regular basis.

More than half of the studies explored the phenomenon in Library and Information Science setup i.e., Tyagi (2017), Ali and Richardson (2018), Ahmed and Yesmin (2019), Thanuskodi (2019), Awan and Idrees (2020), Humhlhi and Jabeen (2020). Out of six studies, three are from Pakistan, two are from India and one is from Bangladesh. Coincidentally, all studies targeted academic librarians particularly university librarians.

Ali and Richardson (2018) studied the workplace information literacy of university librarians. The researcher explored the respondents' level of workplace information literacy skills and motivational factors of enhancing workplace information literacy skills. The questionnaire covered six basic traits: searching techniques, information resources, library systems, research support, information literacy, and basic individual attributes. The majority of the respondents (more than 50 %) were confident about the first three basic information literacy traits i.e., searching techniques, acquiring information resources, maintaining library systems. The respondents were less confident (almost 40 %) in the last three traits such as research support (managing citations, references, etc.), information literacy competency (conducting information literacy sessions, obtaining organization support, etc.), and personal attributes for the workplace such as communication, language, leadership, administrative skills, etc. Marketing skill was the only personal attribute that holds by more than 50 percent of respondents. Generally, the outcomes specify that the university librarians possess high-quality information literacy expertise regarding basic workplace information literacy skills but were weak in advanced information literacy skills. Workplace information literacy skills of university librarians corroborate the outcomes of studies by Anwar, 1981; Naveed and Rafique, 2018; Naveed, 2021, which were about the workplace information literacy skills of working scientists. Ali and Richardson (2018) did not discuss the second part of the study i.e., motivation factors for enhancing workplace information literacy skills.

Humbhi and Jabeen (2020) surveyed the university librarians of Pakistan to identify respondents' skills of information literacy and its different level, instruction methods to deliver information literacy, and identify barriers while instructing information literacy to library users. The researchers studied the library professionals of 12 university libraries in the provincial capitals of Pakistan. The study resulted that the respondents have a high level of knowledge regarding information literacy, because of less engagement the information literacy instructions programs are still in an infancy stage. The respondents revealed that they use traditional methods to provide information literacy education to users such as seminars, workshops, and face-to-face orientation sessions, and identified the major problem that is inappropriate policies regarding the inclusion of information literacy in curricula. This study is limited to information literacy skills regarding delivering information literacy instructions to users. The respondents have satisfactory information literacy skills to conduct an information literacy instructional program with some obstacles (mentioned above). The authors didn't touch on other information literacy skills required by a workforce as described by ACRL or ALA.

In a recent study, Awan and Idrees (2020) also studied workplace information literacy skills of university librarians and revealed a contrasting outcome i.e., over half of the respondents of this research studied information literacy during their education. In other reviewed studies, respondents never had any type of information literacy education during their academic careers. The majority of the respondents also participated in information literacy-related seminars and workshops within the past couple of years. The survey revealed that the university librarians had very clear perceptions about the instructions of information literacy and highly recommended to include information literacy in curricula of higher education institutes. All three Pakistani studies state the current status of workplace information literacy of university librarians without comparing the respondents' information literacy skills concerning their demographic variables age, qualification, gender, experience, etc. The studies found workplace information literacy skills of university librarian as satisfactory. There is significant difference in the results of these studies.

Ahmed and Yesmin (2019) reported the workplace information literacy skills of librarians working in public universities. The researchers recorded the scores of pre and post-training and a significant pre-training score (43%) and post-training score. A significant difference was found in test results for age group, job experience, and computer experience in pre and post-training scores. There was no significant difference in test results regarding the location (urban or rural) of respondents in pre and post-training scenarios. Though the respondents of the study were highly educated and experienced but did not showcase adequate information literacy skills. the pre and post-test results proved that information literacy training can cause a significant difference.

Thanuskodi (2019) investigated the information literacy skills of university librarians as well as special, and public librarians. The majority of the respondents were aware of the importance of workplace information literacy and were confident in handling information literacy. The study concluded with no significant difference between gender and information literacy skills. This is contrasting with the results of Naveed & Rafique (2018) and Naveed (2021) as they found female scientists were higher in IL skills as compared to male scientists. There was also no significant difference between IL skills concerning age and types of institutions. The research reported a significant difference between respondents' educational level, location (urban or rural), types of libraries, technical qualification, designation, and information literacy skills.

Table 2. *Research studies on workplace information literacy.*

Projects	Methods	Key Results
Anwar, M. A. (1979, 1981)	Quantitative Questionnaire 92 college teachers and working scientists.	<ul style="list-style-type: none"> • Most of the respondents except a few never had any training session regarding locating and using their required information material during their studies or professional career. • They considered user education very essential in their relevant fields. • Keenly interested in attending short-term courses of user education but a few emphasized not specifying the time duration of training courses.
Rafique, G. M. (2014)	Quantitative Questionnaire, Simple random sampling 84 university teachers from different faculties	<ul style="list-style-type: none"> • Majority lacking in basic searching skills i.e., identify and define needed information, find, communicate and present the information. • More than half were deficient in selecting relevant information sources and formulating different search strategies. • A very few can evaluate the reliability of selected information sources.
Tyagi, S. (2017)	Quantitative Close-ended questionnaire Library professionals of 5 universities	<ul style="list-style-type: none"> • Inadequate information literacy skills • Lack of personal motivation towards learning information literacy skills • Insufficient incentives, training sessions and information literacy instructions
Ali, M. Y., & Richardson, J. (2018)	Quantitative Questionnaire (online survey) Purposive sampling 77 librarians working in public and private universities	<ul style="list-style-type: none"> • Majority of the respondents were confident about their competency in searching techniques, acquiring information resources, and maintaining library systems. These respondents were less confident (almost 40 %) in research support (managing citations, references, etc.), IL competency (conducting information literacy sessions, obtaining organization support, etc.). • These respondents were also lacking in personal attributes required for the workplace such as communication, language, leadership, administrative skills, etc. • Marketing skill was the only personal attribute that holds by more than 50% of respondents. Generally, the outcomes specify that the university librarians possess high-quality IL expertise regarding basic workplace IL skills but were weak in advanced IL skills. • Generally indicating a low level of workplace information literacy skills

Projects	Methods	Key Results
Khan, A., Idrees, H., Asghar, A., & Aziz, U. (2018)	Qualitative Interview 55 visually impaired school teachers	<ul style="list-style-type: none"> • Participants comply with 59% of the E8 skill set. • Respondents were highly competent in identifying, organizing, searching and assessing information. • Creating and presenting IL skills were weaker • Educational level and computer literacy advances the IL skills • Gender difference had no effect on IL skills • A little difference was found between duration of work experience and IL skills • Personal responsibility to do information-related tasks but were less competent in using modern information searching tools and presenting the data.
Naveed, M. A., & Rafique, F. (2018)	Quantitative Questionnaire 140 working scientists	<ul style="list-style-type: none"> • The respondents perceived that they were competent and confident in IL • Positive correlation between respondents' IL and academic qualification, research experience, number of research publications, age • Female scientists had higher self-efficacy IL than male scientists • No significant relationship found between IL instruction received and self-efficacy IL • Scientists were very confident in using multiple searching tools • Majority of the respondents never attended any IL training during their academic or professional career. • All participants whether they receive IL training or not perceived it very important and proposed one or two days of IL training
Ahmed, S. Z., & Yesmin, S. (2019)	Quantitative Questionnaire Purposive sampling, 33 public university librarians	<ul style="list-style-type: none"> • Significant difference was found between pre-training score (43%) and post-training score • Respondents did not showcase adequate information skills. • No significant difference was found in test result regarding location (urban or rural) of respondents in pre and post-training scenario • Significant difference was found in test result for age group, job experience, and computer experience in pre and post-training scenario

Projects	Methods	Key Results
Thanuskodi, S. (2019)	Quantitative Questionnaire Simple random sampling 750 LIS professionals from academic, special, and public libraries	<ul style="list-style-type: none"> • The majority of the respondents are aware of the concept and value of information literacy • They were confident in handling information • There was no significant difference between gender of library professionals, types of libraries, institutions, and technical qualification, with regards to information literacy skills. • The study found a significant difference among various age groups, educational level, designation, and location (rural, urban) of respondents concerning information literacy skills.
Awan, S. I., & Idrees, H. (2020).	Quantitative Structured questionnaire, 138 library professionals	<ul style="list-style-type: none"> • Over half of the respondents studied information literacy during their education. • The majority of the respondents participated in information literacy-related seminars and workshops. • The university librarians had very clear perceptions about the instructions of information literacy and highly recommended to include information literacy in curricula of higher education institutes.
Humbhi, S., & Jabeen M. (2020)	Quantitative Semi-structured questionnaire Purposive sampling 12 university librarians	<ul style="list-style-type: none"> • Identified the level of IL skills • Respondents were delivering information literacy education to users facing several barriers such as poor and fluctuating policies of the organizations
Naveed, M. A. (2021).	Quantitative Questionnaire 140 working scientists	<ul style="list-style-type: none"> • The respondents perceived that they were competent and confident in basic IL and less comfortable with an advanced levels IL skills. • Majority of the respondents never received IL training • Positive correlation between respondents' IL and academic qualification, research experience, number of research publications, age was found • Female scientists had higher self-efficacy IL than male scientists • No significant relationship of IL instruction received with IL self-efficacy

Tyagi (2017) also investigated the information literacy skills of librarians working in Indian universities. The study resulted in inadequate information literacy skills of the cohort and reported the obstacles of their deficient information literacy skills, i.e., lack of personal motivation, incentives, training sessions, and regular information literacy instructions.

Two remaining studies aimed to investigate the teachers' workplace information literacy skills; Rafique (2014) investigated faculty members (teachers) of the university; and Khan, Idrees, Asghar and Aziz (2018) explored the information literacy skills of visually impaired school teachers. Rafique (2014) explored the information literacy skills of university teachers. The majority of respondents frequently use the library for study purposes but lacking in basic searching skills such as searching databases and library catalogs. They were also deficient in selecting relevant information sources and formulating different search strategies. A very small number of respondents analyzed and create their required information. The university teachers are lacking in basic information literacy skills, this result is contrasting with the results of other reviewed studies as other targeted populations like scientists and librarians were good in basic information literacy skills. There was an exceptional investigation assessing the information literacy skills of school teachers Khan, Idrees, Asghar, and Aziz (2018). By applying the IFLA's E8 information literacy skillset, the researcher found that visually disable teachers were extraordinarily skilled in identifying, assessing, and organizing the information but had hurdles in locating and finding information themselves. They preferred to search the required information personally and were less familiar with new information searching techniques and tools. The study invited the planners to introduce courses of information literacy skills to deprived communities as well to benefit them.

It is worthy to note that in other parts of the world most of the researchers utilize qualitative methods to investigate workplace information literacy (Widén, Ahmad, Nikou, Ryan, & Cruickshank, 2021) but in South Asian context quantitative methods are dominant. An overall conclusion of the collective results of the reviewed study reveals that the phenomenon has been discussed at a novice level. Only the sole phenomenon without any additional variable has been discussed and the majority revealed identical outcomes regardless of different populations and regions.

Implications

A closer look at the results revealed that the survey participants of these studies were less comfortable with the advanced levels of information literacy skills. This finding might have serious implication of for workers' performance in the workplace as the decisions made by the information illiterate workers may be uninformed which might affect organizational performance and productivity. If the process of searching right information at the right place results in complete failure or partial accomplishment due to an incompetent workforce, the effectiveness and efficiency of the work-related tasks are compromised because deliberate decisions will not be performed in the deficit of timely and relevant information. Such situations not merely affect the workers' achievements but also result in organizational low performance. Understanding workforce information problems and anxieties in performing information related tasks might be beneficial to those who are engaged in managing and developing information literacy instructional programs (Naveed & Anwar, 2019, 2020, 2021; Naveed, Jan & Anwar, 2020). The present research produced a valuable overview that can be useful in constructing appropriate

measures to alleviate the deficiencies in workplace information literacy skills of the workforce and recognize their potential skills as well.

Informational professionals are also the beneficiaries of these outcomes in many ways. Initially, they can prepare a customized information literacy program considering the barriers of a particular workforce in a dynamic information environment. This may lead to the aptitude for creativity and lifelong learning. Furthermore, it will reduce the work pressure and save the valuable time of workers and in a long-term perspective beneficial for the organizations. Organizations may get economic benefits as they don't have to spend an enormous amount of money on the grooming of their workers, they have some specific instructional programs to follow and consequently reduce deficiencies in the work process. Mostly in public organizations, the government of developing countries invests a large amount of money in the shape of training, workshops, seminars, conferences, and foreign tours to develop the latest competencies of the workforce but researches show most of the efforts with no results. Developing countries cannot afford to waste their precious economical resources for no gain, accordingly, they have to establish some confined and best fit instructional programs for the workforce to obtain maximum results. Additionally, the services of information professionals to the specific workforces may also improve the workplace information literacy skills.

Conclusively, the literature review portrays a depressing state of workplace information literacy research in South Asia. This review is fundamental and a baseline reference for in-depth and detailed investigations of workplace information literacy that might direct future research and emphasize the use of new ways in researching the phenomenon of workplace information literacy. Information literacy in the workplace context differs from the academic context. Therefore, an in-depth exploration of the workplace information literacy is needed in South-Asia so that the new instruments may be designed for its assessment among different professional groups. The outcomes of the review may motivate the researchers to establish a customized workplace information literacy program particularly utilizing local context. To sum up, information literacy context is an emerging concept in South Asia, and workplace information literacy is a more novel concept indicating the need for unfolding new perspectives of information literacy in the work environment using qualitative research designs.

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